

#### ABSTRACT OF THE DISCLOSURE

A media access control (MAC) frame structure in a cable network includes a MAC header having various extended header types. A data communication method includes transmitting a first EH\_TYPE packet according to the change in the PHS rule to a receiver when the PHS rule changes, checking whether there exists an error in the first EH\_TYPE packet, determining whether to apply a new PHS rule on the basis of the first EH\_TYPE, and transmitting a second EH\_TYPE packet to a sender, terminating transmission of a common PHS packet, setting a packet type as a third EH\_TYPE, suppressing a packet into a new channel, and transmitting the packet when the second EH\_TYPE packet is a success message and setting the packet type as a common MAC packet and transmitting the packet without performing suppression when the second EH\_TYPE packet is a failure message.